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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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03/13/2002

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EXAMINER

CUEVAS, PEDRO J

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 03/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No. _____

Applicant(s) _____

Examiner _____

Art Unit _____

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-13, 16 and 17 is/are rejected.
- 7) ☒ Claim(s) 6, 7, 14 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 January 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "44" and "46" have both been used to designate the stator coil in Figure 4, and reference characters "144" and "148" have both been used to designate the rotor core in Figure 8. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to because in Figure 9, the rotor pole teeth 188 are projecting from the stator core 148, and the stator pole teeth 160 are projecting from an unidentified part. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Defense Vehicle Aiming Ordinance Platform Having Variable Reluctance Motor.

Claim Objections

4. Claims 1 and 9 are objected to because of the following informalities: in line 7, after "a plurality of bearing members, said" the examiner believes that the word "stator" should be substituted by the word "rotor" for the whole sentence to make proper sense. Appropriate correction is requested.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-5, 9-13 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,234,808 to Geppert et al.

Geppert et al. clearly teaches the construction of a variable reluctance electric motor (10) comprising:

a stator (11) formed having a plurality of individual phase segments (12) which are arranged in an annular array, the stator being connected to a base (24 or 25) (claim 9), the segments being provided with phase windings and stator pole teeth (13), said phase segments being connected with a stationary bearing race, and said pole teeth projecting in a generally radial direction; and

a rotor (14) formed integrally with a bearing race, said rotor being vertically supported by said stator by a plurality of bearing members (26 & 27), said stator having a plurality of rotor pole teeth (19 & 20) disposed adjacent said stator pole teeth, said rotor pole teeth being separated from said stator pole teeth by a first vertical gap (21).

7. With regards to claims 2 and 10, Geppert et al. discloses a variable reluctance motor and an aimable ordinance platform wherein said bearing members are ball bearings as shown in Figure 1.

8. With regards to claims 3 and 11, Geppert et al. discloses a variable reluctance motor and an aimable ordinance platform wherein said rotor is surrounded by said stator as shown in Figure 1.
9. With regards to claims 4 and 12, Geppert et al. discloses a variable reluctance motor and an aimable ordinance platform wherein said rotor has a large central opening which is not shown but inherently necessary to accommodate the shaft (15).
10. With regards to claims 5 and 13, Geppert et al. discloses a variable reluctance motor and an aimable ordinance platform wherein said rotor and said stator have pole teeth facing each other across two vertical annular gaps (one for each set of rotor teeth) as shown in Figure 1.
11. With regards to claims 8 and 16, Geppert et al. discloses a variable reluctance motor and an aimable ordinance platform wherein said stator has a core (11) which is supported underneath a base connected with said stator race as shown in Figure 1.
12. With regards to claim 17, Geppert et al. discloses an aimable ordinance platform wherein a section of said rotor overlaps a section of said stator as shown in Figure 1.

Allowable Subject Matter

13. Claims 6, 7, 14 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
14. Since allowable subject matter has been indicated, applicant is encouraged to submit formal drawings in response to this Office Action. The early submission of formal drawings will permit the Office to review the drawings for acceptability and to

resolve any informalities remaining therein before the application is passed to issue. This will avoid possible delays in the issue process.

15. The following is a statement of reasons for the indication of allowable subject matter: the prior art does not teach the construction of a variable reluctance motor and an aimable ordinance platform wherein:

the stator has a coil winding which is vertically suspended underneath the bearing race of the stator; or

the rotor has a core which is vertically suspended underneath the bearing race of the rotor.

Conclusion


16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pedro J. Cuevas whose telephone number is (703) 308-4904. The examiner can normally be reached on M-F from 8:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Néstor R. Ramírez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-1341 for regular communications and (703) 305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Pedro J. Cuevas
February 28, 2002



NESTOR RAMIREZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800